From:	ANDERSON Jim M
To:	Eric Blischke/R10/USEPA/US@EPA; sheila@ridolfi.com; frenchrd@cdm.com; GAINER Tom; Brad Hermanson; Chip Humphrey/R10/USEPA/US@EPA; Kristine Koch/R10/USEPA/US@EPA; JMalek@parametrix.com; MCCLINCY Matt; jpeers@stratusconsulting.com; POULSEN Mike; KingTW@CDM.com; Karl Gustavson/DC/USEPA/US@EPA; CClaytor@parametrix.com; Sean Sheldrake/R10/USEPA/US@EPA
Subject:	RE: FS Process
Date:	12/04/2009 03:54 PM

Chip & Eric,
You asked for feedback on the LWG's proposed FS Process & Brad's 11/19 "*Suggested FS Process*" Tech Memo. The 11/17 EPA/LWG mtg & the LWG's slides really helped me finally understand what the LWG was proposing for the FS process. Here are some thoughts regarding the LWG proposed FS process, Brad's tech memo, & hot spot/principle threat material.

LWG's Proposed FS Process

Here are 2 initial thoughts re: the LWG's proposed process. 1st, I don't think it's fatally flawed, but I have several significant concerns with it. I think Brad did a good job of critiquing the LWG's process & I agree with the deficiencies Brad pointed out in his memo…, the most important of which to me are:

1) Identifying technologies & screening for technical implementability- Identifying technologies & eliminating those that can't be implemented on simply a technical basis…, rather than using effectiveness, implementability & cost to screen technologies as the LWG did.
2) Assembling technologies into remedial action alternatives (RAAs)- Taking the technologies (or process options) that pass thru the technical implementability screen & assembling RAAs representing a range of cleanup actions (no action thru full removal). This is the part where Carl S's original "FS Matrix" comes into play. For sub-SMAs that are only mildly contaminated…, we could limit the range of cleanup actions to be on the lower end of cleanup aggressiveness (e.g., no action, MNR, EMNR, thin-layer capping…, not more aggressive actions like engineered caps & dredging). For sub-SMAs severely contaminated …, we could broaden that range to include more aggressive cleanup actions like engineered caps & dredging.
3) Contingency measures for MNR remedies-

2nd, I think everyone agrees that it would be difficult to try to use the typical FS process in PH. That process would essentially require a full FS for each SMA…, & with the number of SMAs we'll likely end up with…, that'll take too much time & effort. I support trying to streamline & be creative in developing an FS process for PH, & I commend the LWG for developing & proposing a streamlined, creative FS process. I also commend the LWG for breaking SMAs down into sub-SMAs & trying to develop sub-SMA-specific RAAs.

Brad's Tech Memo

As I said, I think Brad did a good job of critiquing the LWG's process. He also did a good job of developing a "Recommended Technology & Alternative Screening Process". Brad's recommended process seems to follow EPA's RI/FS Guidance very closely; & is clear, concise, & easy to follow. I have 2 comments on Brad's recommended process.

1) Identify & screen technology types (Step 4) & identify & screen technologies process options

(Step 5)- 1st, I think technology types should be identified. I understand technology types to essentially be specific & detailed GRAs & subsets of GRAs (i.e., general categories of remedial actions like MNR, capping & dredging). I further understand process options to be representative subset processes of each technology type. For instance, for the technology of capping…, process options would include: thin-layer capping, engineered capping, reactive capping, etc. 2nd, I think these process options should be taken thru a technical implementability screening…, not an initial screening based on effectiveness, implementability, & cost. This initial screening (based on effectiveness, implementability, & cost) should be reserved for screening RAAs, not technologies or process options.

2) RAAs representing a range of cleanup actions- as I said above…, taking the technologies (or process options) that pass thru the technical implementability screen & assembling RAAs representing a range of cleanup actions (no action thru full removal). This is the part where Carl S's original "FS Matrix" comes into play. For sub-SMAs that are only mildly contaminated…, we could limit the range of cleanup actions to be on the lower end of cleanup aggressiveness (e.g., no action, MNR, EMNR, thin-layer capping…, not more aggressive actions like engineered caps & dredging). For sub-SMAs severely contaminated …, we could broaden that range to include more aggressive cleanup actions like engineered caps & dredging.

Hot Spots (HSs) or Principle Threat Material (PTM)

One thing I noticed missing from both the LWG's process & Brad's recommended process was how HSs or PTM would be incorporated into the FS. You're both familiar with the issue, but basically it's the idea that treatment (i.e., dredging vs capping) should be the preferred (not required) RAA for HS or PTM. I think this will play out in the detailed evaluation of RAAs that pass thru initial screening.

I hope this helps.

Jim Anderson
Manager, DEQ Portland Harbor Section
ph: 503.229.6825
fax: 503.229.6899
cell: 971.563.1434

From: Blischke.Eric@epamail.epa.gov [mailto:Blischke.Eric@epamail.epa.gov]
Sent: Monday, November 30, 2009 1:48 PM
To: ANDERSON Jim M; sheila@ridolfi.com; frenchrd@cdm.com; GAINER Tom; Brad Hermanson; Humphrey.Chip@epamail.epa.gov; Koch.Kristine@epamail.epa.gov; JMalek@parametrix.com; MCCLINCY Matt; jpeers@stratusconsulting.com; POULSEN Mike; KingTW@CDM.com; Gustavson.Karl@epamail.epa.gov; CClaytor@parametrix.com; Sheldrake.Sean@epamail.epa.gov
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Attached is the FS Process write-up that Brad produced. A couple of things to note:

1) GRAs identified in the FS work plan include the following: No action, institutional controls, natural attenuation, in-situ containment (i.e., capping), in-situ treatment, removal and disposal and removal and treatment. Other GRAs that we are considering include active capping technologies and enhanced MNR/thin layer caps. These may be considered as GRAs or as variations on a theme (e.g., capping and MNR).

2) One thing that we will need to consider is the scale over which we are performing the evaluation. Site-wide, AOPCs and SMAs/Sub SMAs. Some elements of the evaluation will be performed on a site wide basis (e.g., GRAs, technology screening, disposal site identification) while the alternative screening and development step will occur on the AOPC or SMA scale.

We can discuss this further tomorrow.

Thanks, Eric